

# Audit



# Report

OFFICE OF THE INSPECTOR GENERAL

**SUPPORTABILITY PLANNING FOR SYSTEMS  
PROVIDED TO THE ARMY RESERVE**

Report No. 97-127

April 14, 1997

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**Department of Defense**

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### **Acronyms**

ATRRS  
PLS  
USARC

Army Training Requirements and Resources System  
Palletized Load System  
United States Army Reserve Command



**INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
400 ARMY NAVY DRIVE  
ARLINGTON, VIRGINIA 22202-2884**



Report No. 97-127

April 14, 1997

**MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION  
AND TECHNOLOGY  
ASSISTANT SECRETARY OF DEFENSE FOR RESERVE  
AFFAIRS  
AUDITOR GENERAL, DEPARTMENT OF THE ARMY**

**SUBJECT: Audit of Supportability Planning for Systems Provided to the Army  
Reserve (Project No. 6AG-0027)**

## **Introduction**

We are providing this report for information and use. This report is the third and final audit report in a series of reports on equipping the Army National Guard and Army Reserve. The first report, Inspector General, DoD, Report No. 95-229, "Systems Provided to the Army National Guard," June 9, 1995, discusses supportability planning for systems provided to the Army National Guard through the acquisition process. The second report, Inspector General, DoD, Report No. 96-177, "Tracked Vehicle Systems Transferred to the Army National Guard," June 26, 1996, discusses the planning for the transfer of the Abrams Tank and the Bradley Fighting Vehicle from the active Army units to the Army National Guard.

## **Audit Results**

Supportability planning was effective for the portion reviewed of the 12 Army Reserve systems. Enclosure 3 provides a matrix showing by weapon system the results of supportability planning functions reviewed.

**Specifically:**

- o the Army Reserve received support equipment in sufficient quantities and time to support operations and maintenance for all systems reviewed;

- o the condition of equipment was adequate except for non-mission-capable AH-64 Apache attack helicopters transferred to the Army Reserve;

- o supply support in the form of spares, repair parts, and subcomponent equipment was adequate, with the exception of the C-12R aircraft manuals;

- o training and training support were adequate to ensure that personnel were able to operate and support the systems with the exception of training for the C-12R aircraft and the Palletized Load System (PLS);

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o facilities were adequate at the organizational unit level with the exception of facilities supporting training and maintenance for the Heavy Expanded Mobility Tactical Truck, the Heavy Equipment Transporter System, PLS, and the M915A2 tractor truck (M915A2 Tractor); and

o the Army Reserve unit's access to plan for training using the Army Training Requirements and Resources System (ATRRS) was hampered because of a lack of operator training and outdated computer equipment.

We considered the exceptions to be isolated instances and not systemic in nature.

## **Audit Objectives**

The primary audit objective was to determine whether supportability planning was adequate for fielding systems to the Army Reserve. Specifically, we concentrated on the supportability of systems provided through budgeted Army procurement, congressionally directed procurement, and redistributions from active Army and National Guard units. We also reviewed applicable management controls of the Army Reserve supportability planning. See Enclosure 1 for the audit scope, methodology, and the management control program discussion. See Enclosure 2 for a summary of prior coverage related to the audit objectives. Enclosure 4 describes the systems reviewed, method of receipt, number and value provided to the Army Reserve, number of units and states involved, and number and value of equipment reviewed compared with the total universe selected for review.

## **Audit Background**

The National Military Strategy is that the United States must field forces that are capable, in concert with its allies, of fighting and winning two major regional conflicts that occur nearly simultaneously. The Army Reserve restructured to meet this strategy, to reduce the risks, and to control the costs resulting from smaller active forces. The Army Reserve is mainly a combat service support force and is part of the Army combat support. As of FY 1995, the Army Reserve experienced a 23-percent shortfall in medical material, line haul tractors, water purification equipment, fuel supply equipment, power generators, and communications and electronic items.

All of the Army combat forces have been placed into force packages as defined in the Army plan using the methodology of the "first-to-fight shall be equipped first regardless of component." That method ensures that programming and resourcing reflects the National Military Strategy. The force packages drive the Department of the Army Master Priority List, Army acquisition objectives, and modernization plans. DoD Directive 1225.6, "Equipping the Reserve Forces," November 2, 1992, states that the Army will equip the Reserve components to accomplish all assigned missions. The annual Army budget submissions include

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numerous systems and other items for the Army Reserve. Out of concern for ensuring the readiness of those units, Congress frequently amends the Army budget to add items for the Army Reserve.

**Supportability Planning.** Supportability planning is a continuous process occurring throughout the development and production phases of the acquisition cycle to ensure that users receive weapon systems with the necessary infrastructure and capability. Likewise, weapon systems transferred from active units to the Army Reserve must include all required support items, must include mission-essential subsystems, and must meet the Army serviceability standards. Planning for both acquisition of new weapon systems and transfer of existing weapon systems should begin early in the acquisition cycle and transfer process to make a positive effect on the support cost of the system and the readiness of the unit. Without the support needed to sustain, maintain, and preserve the equipment, the systems are not able to operate efficiently, and unit readiness is adversely affected.

**Supportability Criteria.** DoD Regulation 5000.2-R, "Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs," March 15, 1996, requires program managers to conduct acquisition logistics planning. Supportability analyses and planning are a key element of acquisition logistics and should begin as an integral part of a weapon system's engineering process. The supportability planning should start at the beginning of the acquisition cycle and should continue throughout program development.

In addition to the DoD requirement of timely and effective planning for system supportability, Army Regulations outline policies and procedures for fielding and transferring weapons systems. The guidance provides that users can operate the systems and that the systems will perform as intended.

- o Army Regulation 700-142, "Materiel Release, Fielding, and Transfer," May 1, 1995, states that the materiel release process should guarantee that Army materiel is suitable for issue and is supportable before release to users. The materiel fielding and transfer processes ensure the orderly and effective deployment and transfer of Army equipment, including all necessary logistic support requirements.

- o Army Regulation 750-1, "Army Material Maintenance Policies and Retail Maintenance Operations," August 1, 1994, states that the Army Technical Manual 10 and 20 series, "Preventive Maintenance Checks and Services," are the Army maintenance standards for Army equipment. Technical Manual 1-1500-328-23, "Aeronautical Equipment Maintenance Management Policies and Procedures," February 28, 1991, provides the aviation serviceability standards. All fieldings and transfers of equipment must meet those standards. Army Regulation 750-1 also requires that equipment transferred between major commands be fully mission-capable and include all authorized basic issue items and components of end items. The releasing or losing command must adhere to that standard. At least 60 days before the transfer, the receiving command must inspect the equipment. The inspection

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serves as the final acceptance inspection and determines the corrective action required by the releasing or losing major command unit before transferring the equipment.

o U.S. Army Forces Command/Army National Guard Regulation 350-2, "Reserve Component Training in America's Army," March 1, 1995, states that soldier proficiency is critical to conducting meaningful collective training. Commanders must ensure that for each position a unit soldier fills, the individual is military-occupational-speciality qualified by skill level and grade. The unit commanders identify training through the ATRRS, and Reserve component training institution classes are scheduled based on the stated requirements.

## Discussion

We evaluated supportability planning for 12 Army weapon systems fielded or transferred to the Army Reserve, with a total selected universe value of \$1.5 billion, located in all states and territories and involving 1,011 Army Reserve units. Weapon system supportability planning was adequate for the portion of the systems actually audited. We did not identify any systemic Army Reserve issues that require recommendations. However, we identified isolated problems with specific systems and individual units that indicated the potential for systemic problems, but upon compilation of the data, we concluded that the Army Reserve had already initiated actions for correction. The deficiencies related to the non-mission capability of the AH-64 Apache attack helicopters; the C-12R cargo aircraft pilot training and operators' manual; the PLS initial Train-the-Trainer method; unit maintenance and training facilities for the Heavy Expanded Mobility Tactical Truck, Heavy Equipment Transporter System, PLS, and M915A2 Tractors; and outdated computer equipment and lack of operator training for the ATRRS (See Enclosure 3).

**AH-64 Apache Attack Helicopters.** The Army Reserve received AH-64 Apache attack helicopters in non-mission-capable condition. Neither the Army Reserve unit nor the unit's supporting Aircraft Support Facility personnel inspected the helicopters as required by Army Regulation 750-1 before accepting the non-mission-capable helicopters. As a result, the attack helicopter unit could not train personnel effectively and mobilize in a timely manner, adversely affecting the unit's readiness status. Moreover, the Army Reserve 7th Squadron, 6th Cavalry Regiment (Attack Helicopter) unit located at Conroe, Texas, spent about \$3.54 million of its Operation and Maintenance funds to obtain repair parts for the helicopters and increased the maintenance-hour backlog. The losing unit should have paid those expenses.

The Army Reserve 8-229th Aviation Regiment (Attack) unit located at Fort Knox, Kentucky, followed procedures when receiving AH-64 Apache attack helicopters. The unit inspected the helicopters before accepting them. The inspection showed safety and serviceability standard faults. Before the transfer, those faults were corrected except for the special electromagnetic interference



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paint rework. The Army provided the Army Reserve funds for the paint. The unit reduced the potential effect on readiness and funds spent because unit personnel inspected the helicopter before acceptance.

We notified USARC of the inspection issue. Although the inspection problem was limited to only one unit and was not a systemic problem, the United States Army Reserve Command (USARC) will emphasize to the Army Reserve units the importance of performing inspections and ensuring that the aircraft meets required safety and serviceability standards.

**C-12R Cargo Aircraft.** The materiel developer did not plan or provide the operator training and the military operators' manual needed to fully support the C-12R aircraft. The training and manual shortfall occurred because the materiel developer considered the C-12R aircraft a continuation of the C-12 aircraft program. Consequently, the materiel developer did not prepare a specific materiel fielding plan for the fielding of the C-12R aircraft to the Army Reserve. As a result, the Army Reserve had to use a commercial operators' manual that did not allow them to operate the aircraft as the Army intended. The Army Reserve incurred additional time and expense to obtain operator training because of the Army materiel developer's oversight of the training requirement for the C-12R aircraft. However, the materiel developer adequately prepared for the maintainability and sustainability of the C-12R aircraft.

Based on discussions with the materiel developer, Army Reserve, and Raytheon Aircraft Company, the organizations plan to issue a C-12R aircraft specific military operators' manual in early 1997 that will allow for the aircraft to fully operate as the Army intended.

**PLS Initial Train-the-Trainer Method.** The Army Reserve's initial use of the PLS Train-the-Trainer method did not effectively train drivers and mechanics. The Train-the-Trainer method involved training one or two reservists from a unit at initial delivery or at a special class, and the trained reservists would then train the rest of the unit reservists. Army Reserve units initially had difficulty with planning and execution of the Train-the-Trainer method. During the course of our audit, the Army Reserve took corrective action to remedy the problems with implementing the Train-the-Trainer method by ensuring that enough personnel are present at initial delivery. For example, some units provide PLS operator training during their 2-week annual training period. Other units allocate 3 or 4 months of consecutive operator training dedicated solely to PLS training.

**Unit Maintenance and Training Facilities.** The Army Reserve units that we reviewed had facilities that were too small or nonexistent to maintain and train personnel for the Heavy Expanded Mobility Tactical Truck, Heavy Equipment Transporter System, PLS, and M915A2 Tractor. The USARC Management Control Program FY 1996 Annual Statement of Assurance identified Army Reserve facilities as an uncorrected material weakness. The facility weaknesses that we identified during the audit, for the specific vehicles, were included in the larger problem that USARC reported. The USARC has initiated or completed corrective actions or both beginning May 1, 1993, and ending

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September 30, 1996, for its initial planning efforts. Additional corrective actions planned for FY 1997 include continuing to explore the replacement of older Army Reserve facilities through the construction of new facilities or by obtaining better quality facilities through Defense base realignment and closure and continuing aggressive programs to eliminate leased and Government-owned facilities.

**Army Training Requirements and Resources System.** Training personnel at several units reported that they had difficulty getting access to ATRRS because of outdated computer equipment and a lack of operator training. As a result, some soldiers in those units are not getting the training needed to qualify in their military occupational speciality or for promotion. The ATRRS allows personnel, resource, and training managers to estimate the size of the training base, schedule, and reserve training seats to maintain force readiness and to apply the estimate to all unit training. The key to ATRRS is a data base of scheduled training courses. The Office of the Deputy Chief of Staff for Personnel of the Army manages ATRRS. The Army Reserve and Deputy Chief of Staff for Personnel are aware of the problems with ATRRS and are taking corrective actions to improve the system.

**Equipment.** The ATRRS had technical problems with telecommunications and equipment. Telephone lines and low-speed telephone equipment in parts of the country were inadequate to process ATRRS data. However, an option is that the Command Level Application Software used to maintain personnel data can also provide access for ATRRS data. Older, low-capability computer equipment was another part of the problem for the units. An Office of the Deputy Chief of Staff for Personnel survey concluded that the basic computer equipment at most units was adequate. The Army Reserve units have the old disk operating system instead of the required Windows needed to run ATRRS. The Office of the Deputy Chief of Staff for Personnel survey showed that 22 percent of the Army Reserve do not have Windows for ATRRS access.

The Army Reserve conducted surveys to locate excess equipment for procurement. The Army Reserve can purchase excess equipment at a low cost and redistribute it to units with inadequate equipment. The Army Reserve concluded that the equipment that the surveys located was not adequate, that it was either too old or in too poor of a condition for upgrade. Upgrades would be more expensive than buying new computers.

**Training.** Reserve personnel responsible for training at the units were often untrained in the use of ATRRS. The Army Reserve units did not provide user-friendly operator training to personnel. The ATRRS knowledgeable personnel at the units often transferred out of the units without leaving written instructions on how to access the system. The incoming trainers were left to find out by themselves how to access ATRRS.

The USARC has approximately 900 spaces available in FY 1997 in basic ATRRS training. The training should alleviate the problem of having untrained ATRRS users. Other options include having the unit trainer, who has had the ATRRS course, teach others in the unit how to run the system. The units could



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also send their trainees to an ATRRS class conducted by the Army National Guard. Because the Army Reserve is taking corrective action, this report makes no recommendations.

### **Management Comments**

We provided a draft of this report on February 12, 1997. Because the report contains no findings or recommendations, written comments were not required, and none were received. Therefore, we are publishing this report in final form.

We appreciate the courtesies extended to the audit staff. Questions on the audit should be directed to Mr. James L. Koloshey, Audit Program Director, at (703) 604-8961 (DSN 664-8961) or Mr. Thomas J. Winter, Audit Project Manager, at (703) 604-8978 (DSN 664-8978). See Enclosure 5 for the report distribution. The audit team members are listed inside the back cover.

*David K. Steensma*

David K. Steensma  
Deputy Assistant Inspector General  
for Auditing

Enclosures

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## Scope and Methodology

**Scope.** The "National Guard and Reserve Equipment Report FY 1997," February 1996, listed 343 equipment items for the Army Reserve, with a value of more than \$5.3 billion, that the Army Reserve had at the end of FY 1995. From the 343 equipment items, we judgmentally selected 32 equipment items based on high dollar value and number of items fielded or transferred to the Army Reserve in FY 1995. The 32 equipment items consisted of 12 systems because some systems had multiple variations. The total value of the 12 systems, located at 52 units, that we selected for potential review was \$1.5 billion, and we actually reviewed systems valued at \$751 million of that total during the audit. Enclosure 4 describes the systems reviewed. The universe of \$1.5 billion included 1,011 units, and we judgmentally sampled and visited or contacted 52 units in 18 states or territories. The 52 units had high priority primary mission tasks for which the selected systems were critical to the tasks. Because of the large number of Army Reserve units, audit conclusions are limited to the result of the locations visited or contacted.

**Methodology.** We reviewed documentation and guidance dated from January 1991 through October 1996 that were pertinent to the fielding or transfer of the weapon systems selected for review. We interviewed military and civilian personnel at Army Reserve units. We also interviewed cognizant personnel within various offices of the Secretary of Defense; Secretary of the Army; Army Aviation Troop Command; Army Tank-automotive and Armaments Command; and headquarters, USARC. We did not use statistical sampling procedures.

**Contacts During the Audit.** We visited or contacted individuals and organizations within DoD; Raytheon Aircraft Company, Fort McCoy, Wisconsin, and Willow Grove, Pennsylvania; and BSM Research Incorporated, Arlington, Virginia. Further details about the locations contacted or visited are available on request.

**Use of Computer-Processed Data.** We relied on computer-processed data from USARC to determine the location of selected Army systems for the sites sampled. We did not assess the reliability of the data. However, we did not rely on computer-processed data to support our audit results.

**Audit Period and Standards.** We performed this economy and efficiency audit from January through December 1996 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD, and we included tests of management controls considered necessary.

**Management Control Program.** DoD Directive 5010.38, "Management Control Program," August 26, 1996, requires DoD organizations to implement a comprehensive system of management controls that provides reasonable assurance that programs are operating as intended and to evaluate the adequacy of the controls.

## Scope and Methodology

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**Scope of Review of the Management Control Program.** We reviewed the adequacy of the USARC management controls over supportability planning for the fielding and redistribution of weapon systems. Specifically, we reviewed USARC management controls over planning for support equipment, supply support, facilities, training and training support, and condition of equipment of selected weapon system acquisitions and transfers. Because we did not identify a material weakness, we did not assess management's self-evaluation.

**Adequacy of Management Controls.** The USARC management controls that we reviewed were adequate in that we identified no material management control weaknesses. The Army Reserve did identify in its annual statement of assurance that inadequate maintenance and training facilities was a material weakness before the start of our audit.

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## Summary of Prior Audits and Other Reviews

During the last 5 years, the General Accounting Office; the Office of the Inspector General, DoD; and the Army Audit Agency issued reports that specifically discuss equipping the Army Reserve Forces and the adequacy of logistics support to operational readiness.

### General Accounting Office

The General Accounting Office issued Audit Report No. GAO/NSIAD 93-11 (OSD Case No. 9206), "Reserve Forces: Aspects of the Army's Equipping Strategy Hamper Reserve Readiness," February 1993. The General Accounting Office concluded that Reserve Support Units deployed during the Gulf War were adversely affected because of equipment shortages. The emphasis of the Army procurement program and its distribution priorities are aspects of the equipping strategy that contribute to shortages. Also, under the first-to-fight, first-to-be-equipped distribution strategy, the Army generally assigns lower priorities to the Reserves than to active forces because of later deployment dates. As a result, reserve units often receive equipment later than active units, and some Army Reserve requirements are never filled. The General Accounting Office recommended that the Secretary of the Army raise the equipping priority of the force package of support units to be commensurate with other contingency force support units. The Army completed its review of the support unit force package on July 1, 1993. The review resulted in no force package priority changes.

The General Accounting Office also recommended that the Army reassess the costs and benefits of the existing Army policy permitting equipment redistribution within the affected major Army command, despite higher equipping priorities elsewhere. The Army completed the equipment redistribution policy reassessment on January 24, 1994, and continues to support Army policy that meets the DoD guidance of "first to fight, first to equip."

### Inspector General, DoD

Inspector General, DoD, Report No. 96-177, "Tracked Vehicle Systems Transferred to the Army National Guard," June 26, 1996, states that about 30 percent of the Abrams Tank and Bradley Fighting Vehicle Systems reviewed were fielded to the Army National Guard in a non-mission-capable condition and without all required support equipment.

The report recommended that the Army Deputy Chief of Staff for Logistics require a comprehensive memorandum of agreement among the various commands to improve the transfer of equipment. The report recommended that the Chief, National Guard Bureau, augment the Material Fielding Team with personnel from the National Guard Bureau. In a mediation agreement, the Director of Maintenance Management from the Office of the Army Deputy Chief of Staff for Logistics agreed to issue a message to the major commands

## Summary of Prior Audits and Other Reviews

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that will specifically include a section on Army equipment transfer policies, a reference to the audit report, and a reference to the audit report's finding on noncompliance with Army policies.

Inspector General, DoD, Report No. 95-229, "Systems Provided to the Army National Guard," June 9, 1995, states that supportability planning for the Multiple Launch Rocket Systems and 9 millimeter pistols was not adequate. The weapon systems were provided to units of the Army National Guard without the necessary support items. In addition, no provision was made for Hawk Missile System training beyond FY 1995.

The report recommended that the Assistant Secretary of the Army (Research, Development, and Acquisition) require that all support equipment be delivered concurrently and Congress notified when Dedicated Procurement Program funding is not adequate for required support equipment. The report also recommended that the Army Deputy Chief of Staff for Operations and Plans require the Training and Doctrine Command to complete a viable training plan and provide sustainment funding for the Hawk and Chaparral Missile Systems. The Army Deputy Chief of Staff for Operations and Plans concurred and provided a message detailing the decision to retain, train, fund, and sustain three Hawk battalions within the Army National Guard.

### Army Audit Agency

Army Audit Agency Report No. AA96-75, "Institutional Training Requirements for the Reserve Components," January 17, 1996, states that the Army Reserve Command needed to improve the management of funded training seat quotas necessary to make sure that resources committed to Army Reserve training were fully used and that soldiers received their required training. The report recommended that the Office of the Chief, Army Reserve:

- o Require schools to complete their class schedules within established timeframes, streamline the Army Reserve process for quota management, and continue to field the system down to the lowest feasible level units. The Office of the Chief, Army Reserve, concurred and reinforced the established timelines in Army Regulation 350-10 as of December 1995. The Army Reserve stated that it would field the automated data system to the lowest feasible level by October 1, 1995. As of April 1997, action is ongoing and the Army Audit Agency is monitoring the progress.

- o Identify all training officers needing training on the ATRRS. The Army Reserve concurred and initiated the Train-the-Trainer method in July 1995. In December 1995, the Office of the Deputy Chief of Staff for Personnel required the Army Reserve to provide copies of its users' manual for technical review before distribution.

## Summary of Prior Audits and Other Reviews

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o Establish standard guidelines and identify the reasons for low ATRRS use. The Office of the Chief, Army Reserve, concurred and reviewed and revised guidance outlining minimum lead times required for submission and approval of institutional training and unit commanders' responsibilities in the institutional training of their soldiers. The Army Reserve established quota use goals, policy guidance, and management controls to increase use of quotas by the second quarter of FY 1996.



## Results of Supportability Planning Functions Reviewed

To determine the adequacy of supportability planning, we reviewed weapon systems provided to the Army Reserve, including new equipment obtained through Army procurement and redistributed Army equipment. For new equipment, we reviewed the supportability planned as it related to the Army "total package fielding." For redistributed equipment, we reviewed the condition of the equipment and the required associated support equipment and related mission equipment transferred. The figure below shows the areas reviewed during the audit and the results of the review by weapon system.

<u>Weapon System</u>	<u>Support Equipment</u>	<u>Condition of Equipment</u>	<u>Supply Support</u>	<u>Training and Training Support</u>	<u>Facilities</u>
C-12R aircraft <sup>1</sup>	A <sup>2</sup>	N/A <sup>3</sup>	IC <sup>4</sup>	IC	A
AH-64 Apache attack helicopter <sup>5</sup>	A	IC	A	N/A	A
Heavy Expanded Mobility Tactical Truck <sup>6</sup>	A	A	A	A	IC
Heavy equipment transporter system <sup>6</sup>	A	A	A	A	IC
High Mobility Multipurpose Wheeled Vehicle <sup>6</sup>	A	A	A	A	A
Palletized Load System <sup>1</sup>	A	N/A	A	IC	IC
M915A2 tractor truck <sup>6</sup>	A	A	A	A	IC
5-ton truck <sup>6</sup>	A	A	A	A	A
2500-gallon fuel tank truck <sup>5</sup>	A	A	A	N/A	A
Night Vision Goggles <sup>6</sup>	A	A	A	A	A
Rough Terrain Wheel Mounted Cranes <sup>6</sup>	A	A	N/A	A	A
4,000-pound forklift <sup>6</sup>	A	A	A	A	A

<sup>1</sup>New equipment.

<sup>2</sup>A - Supportability planning was adequate.

<sup>3</sup>N/A - Functional area not reviewed for the system because it was not applicable for various reasons.

<sup>4</sup>IC - Supportability planning was inadequate, but the Army Reserve took corrective action.

<sup>5</sup>Redistributed equipment.

<sup>6</sup>Both new and redistributed equipment.

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## Weapon System Descriptions

The following describes the 12 systems reviewed, method of receipt, number and value of the systems provided to the Army Reserve, number of units and states involved, and number and value of equipment reviewed compared with the total universe selected for review. The total dollar value of the systems that we selected for potential review was \$1.5 billion. We actually sampled and reviewed systems, valued at \$751 million, provided to 52 Army Reserve units. The Force Modernization Program provides new equipment to the Army Reserve to improve mission capability. The transfer program provides equipment that previous units used for their missions.

**C-12R Cargo Aircraft.** The C-12R aircraft is a commercial Beech B200 fixed-wing aircraft. Both the Army and the Air Force use various versions of the C-12R aircraft in their inventories. The Army Reserve initial procurement of the C-12 aircraft was a replacement for the U-21 aircraft. We reviewed all 16 congressionally directed procurements for C-12R aircraft, valued at \$60 million, at two Army Reserve units. The units are located in Pennsylvania and Wisconsin.

**AH-64 Apache Attack Helicopter.** The AH-64 Apache attack helicopter is a single main rotor, twin engine, tandem seat attack helicopter armed with the Hellfire antitank missile, hydra rockets, and a 30mm chain gun. The AH-64 Apache attack helicopter is capable of defeating armor in day, night, and adverse weather. The aircraft has a target acquisition designation system, a forward-looking infrared radar, and a pilot night vision sensor. We reviewed all 44 helicopters, valued at \$470 million, at two Army Reserve units in Kentucky and Texas. The Force Modernization Program and transfer program provided the AH-64 Apache attack helicopters to the Army Reserve.

**Heavy Expanded Mobility Tactical Truck.** The Heavy Expanded Mobility Tactical Truck (Expanded Mobility Truck) is a highly mobile diesel-powered, 8-wheel drive, 10-ton truck with excellent off-road mobility. The Expanded Mobility Truck has an automatic transmission, four traction differentials, and super single radial tires for high mobility. The Army has 11 Expanded Mobility Truck variants, including two cargo vehicles, a tractor, a fuel tanker, and a recovery vehicle. The Army Reserve received the Expanded Mobility Truck through the Force Modernization Program and equipment transfers. A total of 338 Expanded Mobility Trucks, valued at \$65 million, were provided to 152 Army Reserve units in 44 different states. We reviewed a total of 53 Expanded Mobility Trucks, valued at \$10 million, located in 16 states.

**Heavy Equipment Transporter System.** The Heavy Equipment Transporter System (Transporter System) is designed to transport the M1A1 main battle tank and other United States and allied tracked and wheeled vehicles up to a pay load of 70 tons. The designated prime mover is the M911 truck tractor. The Army Reserve received a total of 360 Transporter Systems, valued at \$53 million, located at 3 units in 2 states. We reviewed 288 Transporter Systems, valued at \$42 million, in one state. The Force Modernization Program provided the Transporter System to the Army Reserve.

## Weapon System Descriptions

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**High Mobility Multipurpose Wheeled Vehicle.** The High Mobility Multipurpose Wheeled Vehicle (Multipurpose Vehicle) is a series of 1 1/4-ton, 4x4 tactical wheeled vehicles that satisfy joint Service needs in combat, combat support, and combat service support mission roles. All end-item configurations have a common chassis and use common components and kits where possible. The Army Reserve received a total of 10,156 Multipurpose Vehicles, valued at \$311 million. We reviewed 689 Multipurpose Vehicles, valued at \$21 million, located in 19 states. The Force Modernization Program and transfer program provided Multipurpose Vehicles to the Army Reserve.

**PLS.** The PLS is an ammunition-hauling, tactical, wheeled truck and trailer combination with integral self load and unload capability using a flatrack. The PLS performs line haul, local haul, and mobility missions in support of modernized, highly mobile units. The Force Modernization Program provided the PLS to the Army Reserve. We reviewed all of the 1,671 PLSs, valued at \$83 million, located in 14 states.

**M915A2 Tractor.** The M915A2 Tractor is a long-distance highway container transporter. The M915A2 Tractor is compatible for use with the 34-ton M872 series semitrailers, the 7,500-gallon tanker, and the M1062 tank trailer. The M915A2 Tractor is also capable of towing other semitrailers. The Army Reserve received a total of 1,890 M915A2 Tractors, valued at \$156 million, located at 123 units in 44 states. We reviewed 495 M915A2 Tractors, valued at \$40 million, located in 15 states. The Force Modernization Program and transfer program provided the M915A2 Tractors to the Army Reserve.

**5-Ton Trucks.** The 5-ton trucks are wheeled, tactical, transport vehicles powered by a six-cylinder diesel engine coupled to an automatic transmission with converter. The main features include a three-person cab, forward hood opening, and full air brakes. The M939A2 5-ton truck is a rebuy of the M939 5-ton truck. The M939A2 5-ton truck has a different engine and central tire inflation system than that of the M939 5-ton truck. The Army Reserve received a total of 2,683 5-ton trucks, valued at \$218 million, located at 528 units in 50 states and Puerto Rico. We reviewed 198 5-ton trucks, valued at \$16 million, located in 18 states. The Force Modernization Program and transfer program provided the 5-ton trucks to the Army Reserve.

**2500-Gallon Fuel Tank Truck.** The 2500-gallon fuel tank truck is a 22 1/2-ton fuel servicing vehicle with excellent off-road mobility. The vehicle is diesel-powered with automatic transmission, four traction differentials, and super single radial tires for high mobility. The Army Reserve received a total of 97 2500-gallon fuel tank trucks, valued at \$18 million, located at 28 units in 20 states. We reviewed 13 2500-gallon fuel tank trucks, valued at \$2 million, located in 4 states. The Force Modernization Program and transfer program provided the 2500-gallon fuel tank trucks to the Army Reserve.

**Night Vision Goggles System (AN/PVS 7A).** The Night Vision Goggles System is a light-weight, head-mounted image intensifier that provides improved performance at a lower life-cycle cost than the current AN/PVS-5 goggles. The Army Reserve received a total of 703 Night Vision Goggles, valued at about \$4 million, located at 11 units in 9 states. We reviewed

611 Night Vision Goggles, valued at about \$4 million, located in 7 states. The Force Modernization Program and transfer program provided the goggles to the Army Reserve.

**Rough Terrain Wheel Mounted Crane.** The Rough Terrain Wheel Mounted Crane (Crane) has a diesel engine, pneumatic tires, an all wheeled drive and steer carrier, and a superstructure with a hydraulically operated telescoping boom that rotates 360 degrees. Transportation cargo transfer companies, transportation terminal service companies, and ammunition companies use the Crane. Of the Army Reserve units, 5 units received a total of 14 Cranes, valued at \$3 million, located in 3 states. We reviewed 11 Cranes, valued at \$2 million, located in 1 state. The Army Reserve received the Cranes through the Force Modernization Program and transfer program.

**4,000-Pound Forklift.** The 4,000-pound forklift is a system capable of carrying and stacking 4,000 pounds to a height of 144 inches. General storage warehouses, ammunition storage igloos, loading platforms, and docks use the forklift indoors and outdoors. The forklift can operate over paved, semipaved, and other hard surfaces. The forklift has front wheel drive and rear wheel steering. The Army Reserve received a total of 353 forklifts, valued at \$17 million, located at 105 units in 36 states. We reviewed 20 forklifts, valued at \$1 million, in 4 states. The Force Modernization Program and transfer program provided the forklifts to the Army Reserve.

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## **Audit Team Members**

This report was prepared by the Acquisition Management Directorate,  
Office of the Assistant Inspector General for Auditing, DoD.

Patricia A. Brannin  
James L. Koloshey  
Thomas J. Winter  
Thomas J. Hilliard  
Ronald L. Nickens  
Rudolf Noordhuizen  
LTC Michael W. Gray  
Ursula Cleary  
Noble C. White  
Sheree A. Thompson  
Kristin B. Nabors  
Jacqueline Pugh

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400 Army Navy Drive (Room 801)  
Arlington, VA 22202-2884

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